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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/774,959	02/09/2004	Christian Friedrich Engeln	81717/LPK	5567

7590 09/14/2004

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EXAMINER

LEE, PETER

ART UNIT	PAPER NUMBER
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2852

DATE MAILED: 09/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

AKC

Office Action Summary	Application No. 10/774,959	Applicant(s) ENGELN ET AL.	
	Examiner Peter Lee	Art Unit 2852	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2/9/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: Part 3' can be seen in Figures 1 and 2 but are nowhere in the specifications. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

2. Claim 1-8 are objected to because of the following informalities: All of the mentioned claims refer back to reference numbers found in the Figures. Please remove such reference numbers when writing out the claims. Appropriate correction is required.

3. Claim 3 is objected to because of the following informalities:

Line 16, replace "for" with "form". Appropriate correction is required.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 2, 3, 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Ito et al. (US pn 6333774). As to claim 1, Ito discloses a method for detecting directional marks (ie. process for scanning at least one register mark) (col. 2 lines 1-12) on a recording sheet (ie. printing medium) in a printing machine, whereby at least one directional mark (ie. registration mark) (Fig. 6A parts 65-68) is imprinted on the first form side of the recording sheet (Fig. 6A shows the front side view of the recording sheet as seen by sensor 41) and the directional mark is read by an image sensor (ie. initial sensor) (Fig. 4 part 41) comprising:

Reversing the posture of the recording paper (ie. inverting the printing medium) (col. 8 lines 58-60), reading the directional marks on the first image side (ie. scanning the register mark on the first form side) (Fig. 4 shows two image sensors 41 and 40; one of these sensors 41, will have to read the marks from the overhead position shown), and using the directional mark on the first image side to ascertain if the recording sheet is properly postured to print on the back side (ie. ascertaining whether the reverse side is in register) (Col. 9 lines 1-10; one of the sensors, 41, will inevitably be reading the

directional mark through the sheet when the sheets comes through face down towards sensor 40).

As to claim 2, Ito also discloses a second sensor 40 (Fig. 4) which is mounted on the other side of the recording sheet (ie. printing medium) in relation to the first side sensor (ie. initial sensor)(Fig. 4 part 41).

As to claim 3, Ito further discloses the directional mark (ie. registration mark) (Fig. 6A parts 65-68) on the first side being read by the image sensor 41 in Fig. 4 (ie. initial sensor) through recording sheet. Ito teaches the use of two image sensors (Fig. 4 parts 40 and 41) to read the directional marks placed on a first side of the recording sheet. When the sheet is flipped over to its back side for duplex imaging (col. 8 lines 59-60), both image sensors are still in use which teaches that one of the said sensors must be reading the marks through the sheet.

As to claim 4, Ito further discloses the directional marks (ie. registration mark) (Fig. 6A parts 65-68) printed on specific points on the recording sheets in relation to each other's position on the sheet is read by the image sensors (ie. position of the register mark in relation to the printing medium is scanned). Ito teaches in col. 9 lines 4-10, that the posture of the recording sheets are determined by the position of the respective direction marks placed on the sheet. Because the specific placement of the marks on the recording sheet are of importance, it is taught that the marking positions are in fact in a relationship with the recording sheet.

6. Claims 6 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Ito et al (US pn 6333774). Ito teaches a printing system to read direction marks on a recording sheet in a printing machine (ie. mechanism to scan at least one register mark on a printing medium), with

the direction marks (ie. register marks) (Fig. 6A parts 65-68) on the first front side (ie. first front side) comprising:

A first image sensor (ie. initial sensor) (Fig. 4 part 41) to read the detection marks (ie. register mark) (Fig. 6A shows the front side of the recording sheet as seen by sensor 41) on the front side before the recording medium is turned over (ie. inverted) (col.8 lines 58-60), and to read the direction mark through the recording sheet after the sheet has been turned over (Fig. 6B shows the direction marks as seen by the sensor 41 after the sheet has been turned over).

As to claim 7, Ito further discloses a second image sensor (Fig. 4 part 40) to read the direction mark (ie. registration mark) through a conveyor belt that is conveying the recording medium (not explicitly labeled in Fig. 4 of the prior art, however can be seen to exist where the recording sheet, part 32, travels on) after the printing medium has been inverted, whereby the second image sensor is mounted on the other side of the recording sheet in relation to the first sensor (Fig. 4 clearly teaches that image sensors 40 and 41 are positioned opposite each other, with sensor 40 being underneath the displayed conveyor belt).

As to claim 8, Ito further still discloses a direction mark of a triangular shape seen in Fig 6B part 66. It is inherent then, that any shift in position of the recording sheet at right angles to the direction of travel of the recording sheet can be detected.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2852

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

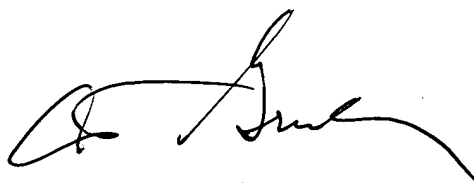
8. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ito in view of Suga (US pn 6345171). Ito teaches all of the limitations according to claim 1 as outlined above. Ito does not teach reading the position of the sheet of paper (ie. printing medium) in relation to a transferring belt (ie. conveyor belt). It is Suga who teaches the use of photo-sensors (Fig. 6 part 38) to read the registration marks on both the transfer belt and on the sheet of paper being passed through the image forming apparatus (col. 4 line 49-59). It would have been obvious to a person of ordinary skill in the art at the time the invention was made to include such a sensor to measure the registration marks on a transferring belt in relation to those found on a sheet of paper in a process for assuring registration during printing operations. One of ordinary skill in the art would have been motivated to do this in order to determine the optimum conveying speed of the transfer belt to minimize blurring and vibration during image transfer (col. 2 lines 12-18 and lines 27-34).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Lee whose telephone number is 571-272-2846. The examiner can normally be reached on mon-fri 9:00 am-5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Arthur Grimley can be reached on 571-272-2136. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PL 9/8/04



Arthur T. Grimley
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